OCTOBER 1968
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soil conservation

DEVOTED TO THE WISE USE OF LAND AND WATER RESOURCES

DEVELOPING THE NATION'S OUTDOOR RECREATION RESOURCES

RC&D projects
Pages 51, 54

Watershed projects
Pages 57, 60

Private operators
Page 56

SOIL CONSERVATION SERVICE

U. S. DEPARTMENT OF AGRICULTURE

October 1968 Vol. 34, No. 3

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DEVOTED TO THE WISE USE OF LAND AND WATER RESOURCES

COVER: Canoeing and float fishing on the Current River attract many vacationing visitors to the Shannon County Soil and Water Conservation District in Missouri.

Recreation . . .

When the Food and Agriculture Act of 1962 made outdoor recreation an official concern of the Department of Agriculture, SCS was quick to point out that many fine recreation facilities were already resulting from soil and water conservation.

Farm families and friends were enjoying fishing, swimming, and boating on farm ponds and watershed lakes, and hunting and hiking in improved wildlife habitat.

Planned development: With assigned responsibility for improving outdoor recreation resources, SCS helped landowners and communities plan recreation as a primary income-producing land use.

We asked fieldmen for a sampling of results for this issue of *Soil Conservation*. The response exceeded our space and shows that the country is already reaping a harvest of enjoyment and relaxation from quality facilities that bring increased economic returns.

Suburban project: Because it is a pilot in the rural-urban fringe, where crowded city people can first meet open space, the Rock Creek Project near Washington holds interest for the entire country.

We are pleased to have the story (p. 57) from the man who led the local citizen effort, Col. Lathrop E. Smith. Because he is resting at a retreat in Maine, recovering from a heart attack, Janet Wilson of the Potomac River Basin Advisory Council wrote the draft for him, in consultation by telephone.

51 Recreation strikes a spark in land of Hull and York
By Artice K. Booher

54 A city park for an entire county
By John W. Young and Milo E. Thompson

56 Pheasant hunting 30 minutes from San Francisco
By Hilton Taylor

57 Recreation park draws visitors to Rock Creek reservoirs
By Lathrop E. Smith

60 Now there's recreation at Cotile
By James Loe

62 Small dams satisfy big thirst in Tunisia
By Frederick E. Keeter

63 Taking the measure of outdoor recreation resources
By Charles G. Phillips

65 Private and public range combined in plan
By E. David Sharman and Gene Vecchia

67 Historic Texas ranch adds a new chapter with Great Plains Program
By A. V. Sheppard and Nolan W. Bird

68 Meetings
Congress for Recreation and Parks; American Forestry Association; American Chamber of Commerce Executives; Dates and places

69 Review
Outdoor Recreation: Community Action Guide for Public Officials; Rural Recreation for Profit; Manual of Outdoor Interpretation; The Freeway in the City; New publications; Soil surveys

71 From the Administrator
Conservation on recreation areas

72 Conservationist with a camera

From around the country
64 Scout camporee, Tennessee; 66 Converted to pines, North Carolina

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Recreation strikes a spark in land of Hull and York

By Artice K. Booher
RC&D project coordinator, SCS, Cookeville, Tenn.

Cordell Hull and Alvin C. York would be proud of the local people, rural and urban, who have united with single purpose to develop the resources of the rugged mountain country where they grew up. Recreation proved to be the needed catalyst for the Hull-York Lakeland Resource Conservation and Development Project established in Tennessee's Upper Cumberlands in 1965. Recreation facilities at Dale Hollow Lake are among the attractions now bringing a flood of visitors to the area.

Key recreation facilities already completed in the Hull-York Lakeland Resource Conservation and Development Project are making the 11-county Cumberland area Tennessee's most rapidly developing family playland.

The influx of visitors and cash, and the experience of working together for common goals, are producing noticeable changes in the attitudes, enthusiasm, and economic status of the local people. State sales tax collected in the area increased 11 percent in 1967 over 1966.

The 2,578,500-acre RC&D Project, named for its two world-famous citizens, was authorized for planning in November 1965. In the course of developing the plan, about 1,400 people participated in some 40 grassroots meetings and offered more than 300 ideas and suggestions for project measures.

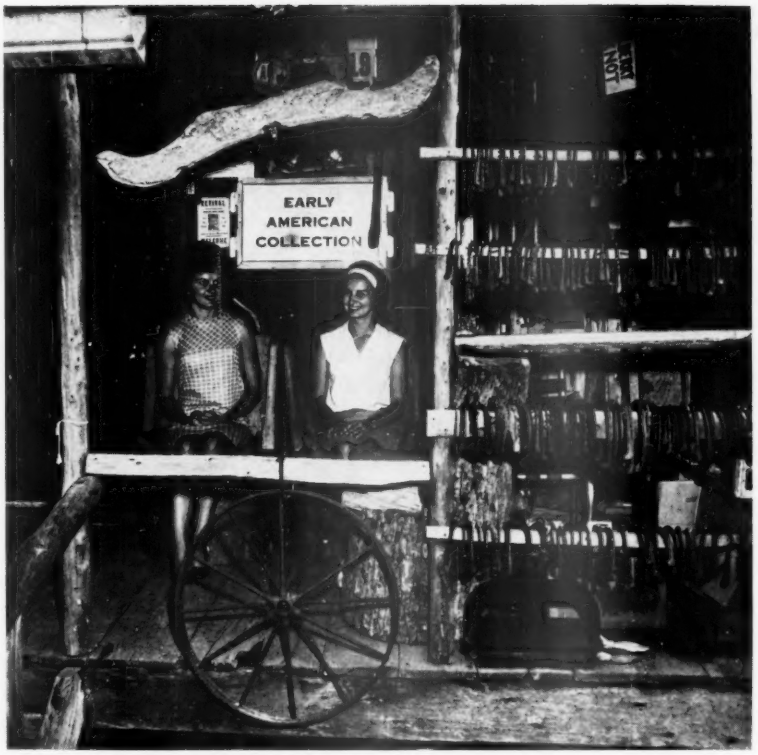
The area produced Sergeant

Alvin C. York of World War I fame and Cordell Hull, secretary of state and father of the United Nations. Here these two great Americans grew to manhood in the midst of rugged natural beauty. Their mettle was tempered by personal hardship and sacrifices and their character enhanced by a resolute determination to contribute to the betterment of their fellow man.

Vacation visitors

These same natural features and pioneer human traits appeal to today's vacation visitor from ultramodern cities and towns. RC&D committees, searching for a theme that would unite all groups in a common effort, decided to capitalize on the unique natural and human heritage of the area by promoting recreation development.

In early 1967 the Recreation and Tourism Committee published a full-color brochure on the Hull-York Lakeland area listing the recreation attractions available. The venture was financed by local merchants, owners of recreation facilities, and by interested individuals.



Activity of the RC&D Recreation and Tourism Committee has helped to increase the number of visitors to Tinch's Old Mill and Museum.

Water and scenery

The area is rich in lakes, streams, and scenic grandeur. Dale Hollow Lake, on Obey River near Celina in Clay County, boasts many record catches of bass and trout. The United States record brown trout was taken from the tailwaters of Dale Hollow. Center Hill Lake, on Caney Fork River, is one of the most picturesque of lakes.

These lakes provide game fish that attract fishermen from all over the United States. Their crystal waters are suited to boating and other sports. The shorelines are used by campers all summer.

In addition, hikers may follow trails established by the Indians. One of the project measures is to locate and preserve the numerous archeological sites in the Upper Cumberlands. Historic sites such as Sergeant York's old water mill and the Moses Fisk home are being restored and preserved for all to enjoy.

Big game hunting is another popular attraction. Caryonah, a 3,500-acre hunting preserve owned and operated by Lawrence Carey, features wild turkey and Russian wild boar. Carey, a former conservation district supervisor and dairy farmer, has developed his resources into a family operated business that draws visitors and hunters from every state. This year foreign hunters have come from Denmark, Scotland, West Germany, France, England, and Mexico.

Drama and history

The Recreation and Tourism Committee also has promoted the Cumberland County Playhouse. The playhouse is directed by Paul Crabtree, who has written plays for Broadway and the Kraft Theater. Some of the actors are professionals, but most are local residents of Crossville.

Rustic reminders

Thurman Tinch restored an old water mill and developed a museum that features rustic reminders of pioneer days and early Americana. At the close of the 1967 season, Tinch sent a check for $87 to the Hull-York Lakeland Association. He said his contribution represented 5 percent of the increase in his income as a result of the recreation-tourism program.

A complete recreation complex called Holiday Hills is being developed near Crossville. A 32-unit motel with a dining room to seat 250 is being constructed on the shores of a beautiful 265-acre manmade lake. Holiday Hills also boasts an 18-hole golf course adjacent to a new airport and a marina for pleasure boats.

Fishing, boating, and water-skiing are popular sports at Dale Hollow Lake.

A group in Fentress County formed a nonprofit organization and negotiated a $200,000 RC&D loan to finance a recreation facility in this rural area that includes a swimming pool, golf course with clubhouse, and a picnic area.

Influx of campers

Project measures to meet the needs of the ever-increasing numbers of camping enthusiasts are rapidly being installed. A modern camping area to accommodate 50 trailers was completed by Kamp Grounds of America near Interstate 40 in Putnam County during 1967. The Pleasant Grove Trailer Park and Recreation Area at Dale Hollow Lake began operation in 1967.

Other project measures

Other project measures currently being developed include the 13,000-acre Michaux-Yellow Wood Recreation and Hunting Preserve in Smith and Jackson counties. A group of 130 landowners merged and obtained a charter to formally organize the operation on a sound business-like basis. The landowners plan to develop facilities that will appeal to individuals or large groups.

Renegade Resort, a 30,000-acre wilderness area now under development, will feature a ski slope and lodge as well as a hunting lodge. The resort also plans to sell chalet-type cottages.

Dr. L. R. Dudney, president of the Hull-York Lakeland RC&D Project, summed up the attitudes of local people by saying, "We firmly believe recreation to be a vital link in uplifting our society and in improving the economic conditions of this area and its people." ♦

South Carolina passes bill for RC&D Authority

The Lowcountry Resource Conservation and Development Project needed stronger legal authority to operate programs over a six-county area in South Carolina, and now it's got it.

An act of the General Assembly, recently approved by the Governor, creates the Lowcountry Resource Conservation and Development Authority. It can use the power of eminent domain when necessary; it can secure rights-of-way and easements to install works of improvement; it can accept gifts and grants and exercise other powers to implement measures of the project.

This is the first such authority created specifically to operate a resource conservation and development project. ♦

A city park for the entire county

By John W. Young and Milo E. Thompson
Work unit conservationist and project coordinator, SCS, Cortland and Norwick, N. Y.

A city recreation area in Cortland, N. Y., came into being in response to a locally recognized need for swimming facilities to serve all of Cortland County. The town of Cortlandville, the city of Cortland, and the county of Cortland joined to meet this need through action of the South Central New York Resource Conservation and Development Project.

Officials at the opening ceremonies last July hailed 12-acre Yaman Park as a unique civic achievement. It has capacity for 500 picnickers, 500 bathers, and 350 to 400 cars.

The 4½-acre lake can be used extensively by swimming groups from surrounding communities. The park includes 90 picnic tables and cooking grills, a concession stand, bathhouse and dressing facilities, three major shelters (one of which can be enclosed), 10 cabanas, and two restrooms.

Federal and state aid

Yaman Park started when the Cortland County Board of Supervisors' recreation committee reported a need for swimming facilities and began studying possible sites. James Yaman, a local realtor, owned a desirable site and contributed 12 acres of land within the city limits that was part of a farm under cooperative agreement with the Cortland County Soil and Water Conservation District.

Mrs. Florence Fitzgerald, chairman of the recreation committee and a member of the Cortland County Resource Conservation and Development Committee, suggested the park as an RC&D project measure. Cortland City Mayor Morris A. Noss approved the proposal, and the city council submitted it to the South Central New York RC&D Steering Committee. The conservation district authorized high priority for Soil Conservation Service help.

The steering committee approved it as one of the first 66 measures to be undertaken in the first year of operation of the project. The RC&D project arranged assistance to the sponsors from state and federal agencies.

SCS provided engineering surveys, designs, and cost estimates for the swimming area. Application was made to the New York State Conservation Department, Division of Parks, for state financing and for federal land and water conservation funds. The Health Department helped in the health requirements.

The New York State Division of Parks made a grant of $106,950 for nearly half the cost. The city carried the balance of the construction costs.

A place to swim

Construction of the 4½-acre swimming area started in the early fall of 1967 and was completed by snowfall. It was excavated from a gravelly area. Sand was brought in for the beach. The lake level is maintained by ground water. The Tioughnioga River, flowing nearby, provides an outlet for the water which naturally flows through the pool in the direction of the river. Provision is also made for pumping, if necessary, and for chlorination of the water to meet health requirements. Different depths of water have been provided for varying age groups of swimmers.

A cool day doesn't hinder attendance at the Yaman Park beach. The large bathhouse is flanked by picnic pavilions.

Picnic cabanas line the lakeshore of one of the first completed measures of South Central New York RC&D Project. The second day after opening 1,100 people attended the beach.

New York RC&D Project links local governments to develop area recreation

Activities to be provided in the immediate future include swimming and swimming instruction, picnicking, fishing, boating, canoeing and boating instruction, and skating during winter months.

Future plans

Mayor Noss said that if adjacent land becomes available in the future, the park will be expanded. Baseball, softball, tennis, and other activities and facilities will be added.

Other state agencies and programs gave their support and assistance to the Cortland sponsors, too. The New York State Beautification Program, through the State Division of Youth, supplied 10 young people for 2 weeks to do clearing and preparatory work before the machines moved in. They also built the 90 picnic tables with quality results.

The State University College at Cortland will teach canoeing and boating. Other local groups contributing include: The Exchange Club, the Kiwanis Club, the Junior Chamber of Commerce, the Rotary Club, the Cortland State Teachers Association, and the Lions Club.

Community benefits

What does all of this mean in terms of benefits to Cortland County and its city, villages, and communities? It means citywide and countywide swimming and swimming instruction, which were previously available on a very limited basis. It means more family picnicking and fishing in addition to that presently available. The area will be landscaped, beautified, and improved in appearance. Employment will be provided for one or two park guards, two to four lifeguards, one receptionist, and one full-time and several part-time maintenance men. ♦

U. S. farmer cooperatives lend a hand overseas

Farmer cooperatives with more than $1 billion in assets and $15.6 billion in annual business are in partnership with the U. S. Government to help boost farm production and farm income in overseas countries.

They are showing people in some developing countries how to set up and run their own businesses.

Many other types of cooperatives as well as farmer organizations have had a unique partnership with the Agency for International Development (AID) for 7 years. Together with AID, they have been in 53 countries to help build and strengthen cooperative institutions.

Pheasant hunting 30 minutes from San Francisco

By Hilton Taylor
Work unit conservationist, SCS, Sonoma, Calif.

Hunters in the San Francisco Bay area can get the main course for their "pheasant under glass" dinners before heading to work in the morning.

Pheasant under glass

Two Sonoma County brothers whose grain farm is just 30 minutes away from San Francisco have made this possible. Bob and Fred Dickson operate a commercial hunting facility and continue to farm the same land. They are cooperators with the Sonoma Valley Soil Conservation District and operate according to a conservation plan worked out with the assistance of the Soil Conservation Service.

Originally marshland

The Dickson farm, located on the north side of San Francisco Bay, originally was marshland. The land has an elevation of 2 to 3 feet below sea level. Levees control tides of the bay and keep the streams from covering the land, making farming possible.

The members-only Dickson Hunting Preserve is complete with a clubhouse, dogs, and refreshments. More than 10,000 pen-raised pheasants were released last year on the property. Mike Sutsos, professional hunter, and dog trainer, is in charge of the hunting enterprise.

The land produces prime oats and oat hay harvested for livestock. The hunting enterprise has created few problems. Oats in the California coastal climate is a winter crop harvested after the rainy season in late spring. Hunting follows in the oat stubble in late summer and fall, before time for replanting the next grain crop.

No drainage outlet

The land, being below sea level, has no drainage outlet. The conservation plan calls for 5 miles of open drainage ditches, with pumps, to lower the water table or remove surface water and pump it over the levee into the bay. The plan also calls for shaping and grading 53 acres to eliminate low spots where water tended to collect and interfere with farming operations. Some sections of the levees had to be raised and strengthened to insure holding back tidewaters of the bay.

Plantings for pheasants

SCS currently is working with the owners to establish perennial vegetative cover suitable for pheasant habitat. Plans have been developed for hedgerow plantings to break up the open fields with screens to hold the birds on the area. The plantings will consist of quailbrush (big saltbush), pyracantha, pampasgrass, multiflora rose, and blackberries. Trees will be planted on higher ground.

Temporary plantings

A temporary cover of strips or patches of annual plants will be grown at selected hunting areas to attract pheasants. The temporary plantings will consist of sudangrass, milo, field corn, and sunflowers planted to simulate hedgerows.

Because the water on the marshlands is brackish, the Dickson brothers have installed drinking stations, or "guzzlers," to provide fresh water for the pheasants. The stations are metal barrels with drinking troughs having float valves to regulate the water level. Fresh water is hauled to refill the barrels.

Some of the farming operations have to be adjusted in order to accommodate the hunters and pheasants, according to Fred Dickson. But the changes have given the brothers a second crop off the land.

"It is better to have paying guests on the ranch who are interested in sustaining a nearby, pleasant place to hunt than to have unorganized hunting," Dickson said. "Since we organized the club we have had no broken-down fences, accidental fires, litter, or havoc." ◆

Fishing and boating are leading activities at Lake Needwood. The "Needwood Queen" is a replica of a Mississippi River steamboat.

On the outskirts of the Nation's Capital . . .

Recreation park draws visitors to Rock Creek reservoirs

By Lathrop E. Smith

Chairman, Montgomery County Soil Conservation District, and president, Maryland State Association of Soil Conservation Districts, Rockville, Md.

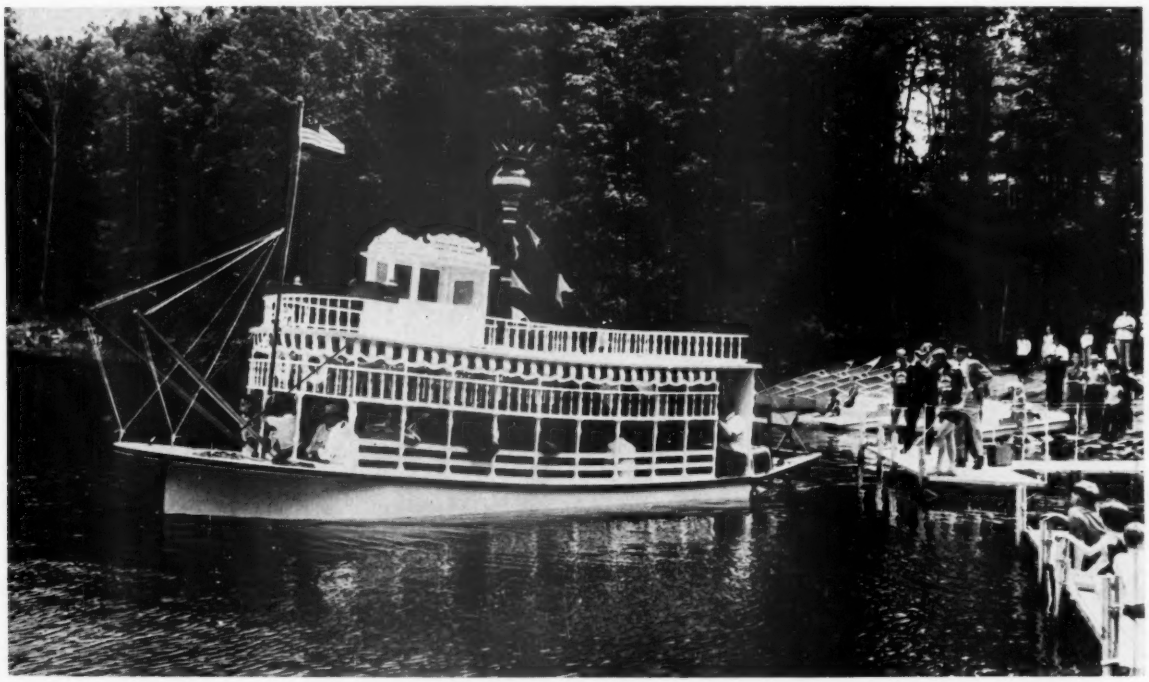
Most people who visit and use the Upper Rock Creek Regional Park probably never suspect that it revolves around two flood and sediment control impoundments, sculptured out of the earth with bulldozers.

They see the water-oriented park for its boating, fishing, picnicking, and related recreational opportunities and accept the landscape as Nature's design.

The upper watershed in Montgomery County, Md., has a particularly intimate bearing on the lower reaches of Rock Creek, a 22-mile tributary of the Potomac River. Cloaked in green park land, the creek slices through the fashionable northwest section of Washington, D. C., where foreign embassies, an historic mill site, and the National Zoo all contribute to the creek's atmosphere.

Tour books describe Rock Creek as Washington's "largest and finest natural recreation area." To protect this choice park land from the sediment and runoff of upstream urbanization, the Upper Rock Creek watershed, located in the

Mr. Smith was named 1968 Watershed Man of the Year by the National Watershed Congress.



metropolitan fringes in Maryland, was chosen for the site of two small reservoirs in a project under the Watershed Protection and Flood Prevention Act (Public Law 566). By their very existence, the reservoirs provide two expansive lakes around which a 2,600-acre regional park has been developed.

In addition to providing flood and sediment protection to the downstream reaches of Rock Creek, the purposes of the reservoirs are to develop new recreation opportunities and to reduce the sediment load being transported to the Potomac River. This was a pilot project as a multiple-purpose watershed development which incorporates recreation.

Plans for the project were published in August 1962, on the heels of the passage of the amendment to Public Law 566 providing for federal cost-sharing for recreational development as a project purpose. Now, after more than a year of use the recreational and conservation features of the project have demonstrated harmonious coexistence, and the recreational benefits have come to bear on the community.

The Rock Creek Watershed Association, a citizens group, was instrumental in organizing public sentiment for the reservoirs and in rallying the support of local and federal agencies. The persistent efforts of the Montgomery Soil Conservation District supervisors and SCS staff conservationist obtained conservation agreements with landowners to meet the requirement that more than half the land above the dams be subject to recommended conservation practices.

With this scope of cooperative backing, Rock Creek was eligible for financial assistance under Public Law 566, which requires a display of local support as a qualifying condition. The Rock Creek project is in keeping with Department of Agriculture policy to consider recreation development in each project, carried out with public assistance.

Sponsoring the Upper Rock Creek Project are three local groups —Montgomery County, the Montgomery Soil Conservation District, and the Maryland-National Capital Park and Planning Commission. The Park and Planning Commission has paid for a large part of the development costs for the recreational facilities and provides for the park's maintenance.

The Soil Conservation Service helped the local groups plan the project and supervised construction of the reservoirs. It is providing the federal share of $1,414,322 towards the total project costs of $4,237,202, a part of which is earmarked for the basic recreation facilities.

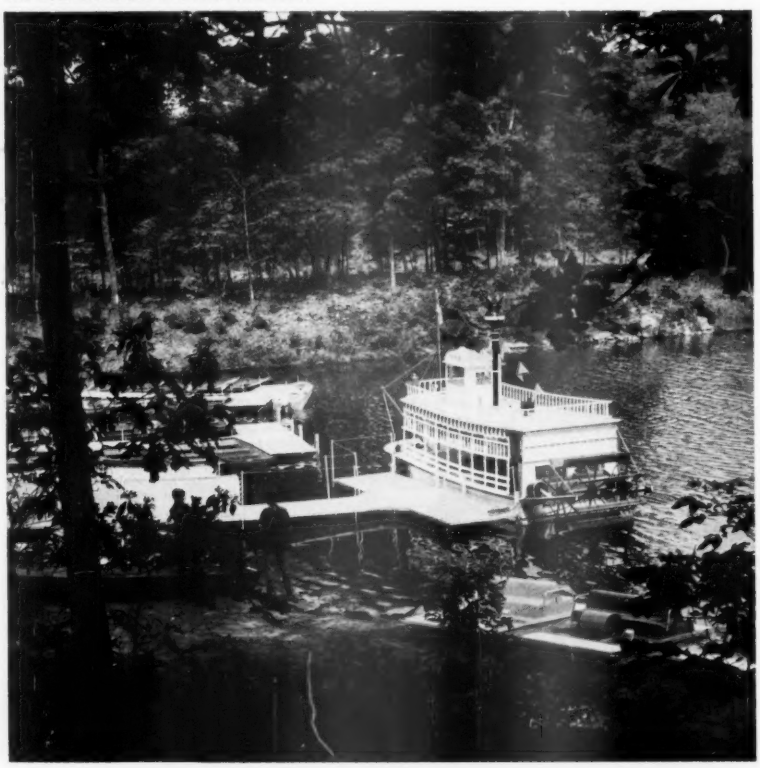
The smaller of the two lakes (54 acres) was named for Bernard Frank, a professional forester and watershed management specialist whose vision was largely responsible for the initial efforts on behalf of Rock Creek. It has not been completely developed for recreational use, although it is functioning in sediment and flood control.

The other lake, Lake Needwood, was opened for public use in July of 1967. Within 10 weeks the park received 282,000 public visits by people eager to use the dozens of picnic tables and to enjoy the fishing and boating on the lake. Recreationists climb to the top of the 64-foot rolled-earth dam and look out over the lake with no ending in sight. A 30-passenger replica of an old Mississippi showboat makes its rounds on the 74-acre lake.

Lake Needwood has been stocked with crappie, bluegill, and bass. Fishing skiffs, canoes, and paddle boats are available, but due to the limited size of the lake, private boats are prohibited.

Anglers preferring a more secluded fishing atmosphere harvest the trout waters immediately downstream from the reservoir. Each

The boat docks are in a tree-lined cove.



Fishing skiffs are available. Motor boats and other private boats are forbidden on the lake.

dam is equipped with a cold-water release to guarantee year-round the low water temperature needed by trout. The principal spillways permit the normal low water discharge to be drawn from the coldest water layer in the reservoir. It is hoped that the coldwater release will extend the fishing season, which has previously ended with the onset of hot weather.

The release was also rigged so that water leaving the lake takes a short fall to allow it to pick up oxygen and thereby assure a sufficient oxygen supply for the aquatic life immediately downstream. To improve the stream for trout fishing, shade-producing cover, deeper pools, and a rocky labyrinth will be established below both lakes.

Apart from the celebrated reservoir structures, a well-planned program for land treatment within the watershed has been of tantamount importance to the overall success of the project, as well as in assuring uninterrupted recreational use.

The 25 square miles that drain into the two structures is predominantly rural farmland and woodland. The upper watershed, however, marks the threshold of urban sprawl which, in its path, has dried up many of the creek's sources and buried watercourses under a burden of sediment. A study of "then and now" maps showing comparable portions of the creek's watershed indicates that 50 percent of the natural streams have disappeared since 1913.

Because the scenery and the recreational attractions created by the lakes provide prime attractions to home buyers, builders have everything to gain by practicing soil conservation which keeps the lakes clear. The local soil conservation district and SCS technicians are working together to assist developers to apply protective measures.

Montgomery County, a project sponsor, was the first locality in the country to establish a meaningful sediment-control program, adopt it as policy, and enforce it where necessary. In another of its roles, the county has been enforcing an adequate zoning code so that overdevelopment of the watershed does not take place.

The recreational uses of the reservoirs vary to meet a wide range of user interests. The area around one lake is laid out for "high density" recreation and the other for "low density," passive activities.

For the recreationist in search of relaxation, there will soon be available an 18-hole golf course, a nature center, and additional foot trails. Needwood Mansion, the one-time hideout of John Singleton Mosby—Gray Ghost of the Rebel cavalry—is located on the park grounds and is scheduled to undergo partial restoration.

For the active recreationist, tennis courts, riding stables, and athletic areas are being developed. Already completed is a visitors' center overlooking the lake, notable for its glass-enclosed circular lounge laid out around a hooded fireplace—evidence of the park's intended winter use. ◆

1969 farm census to be taken by mail

The 1969 Census of Agriculture will rely heavily on the voluntary responses of farmers and ranchers to questionnaires sent through the mail, rather than on interviews by paid enumerators.

The Census Bureau has already tested the new procedure and believes that it will not only be more economical but will provide better data than previous censuses.

A test mailing to about 18,000 farm addresses in two states early in 1968 indicated that returns may range from 85 to 95 percent. Data for the remaining 5 to 15 percent will be obtained by followup procedures. Response is required by law.

The mail method allows farmers and ranchers to complete the questionnaire at their convenience, within a reasonable time, and to use their records as needed. This should result in more accurate answers than are sometimes possible in face-to-face interview.

Much of the statistical information for 1969 will cover all farms in all counties and will be comparable to data for 1964 and earlier census years. Some items will be reported only for farms with sales of $2,500 or more.

The definition of a farm in the 1969 census will be the same as in 1964 and 1959. Places of less than 10 acres will be counted as farms if 1969 sales of agricultural products are at least $250. Places of 10 acres and more will be counted as farms if sales amount to at least $50.

USDA representatives who serve on the Bureau of the Census Advisory Committee on Agriculture Statistics are Dr. Harry C. Trelogan, administrator, Statistical Reporting Service, and Carl P. Heisig, deputy administrator, Economic Research Service.—J. THOMAS BREEN, *chief, Agriculture Division, Bureau of the Census.* ◆

Now there's recreation at Cotile

By James Loe
Work unit conservationist, SCS, Alexandria, La.

Cotile means fun to thousands of people who enjoy the outdoors. They are flocking in droves to the 1,775-acre lake and 80-acre recreational area in the Bayou Rapides Watershed Project in Rapides Parish, La.

The project is located in the heart of the state in the rich Red River bottom lands. It got underway in 1957 when the Rapides Parish Police Jury joined with the Lower West Red River Soil and Water Conservation District to sponsor the 97,000-acre project.

Besides providing recreation, Cotile Lake is designed so water can be let out when needed to irrigate more than 10,000 acres of cropland. Four low-level weirs are built in the 27 miles of Bayou Rapides waterway which cuts through the fertile farmland of the parish. Water behind the weirs also provides places to fish from the banks of the bayou.

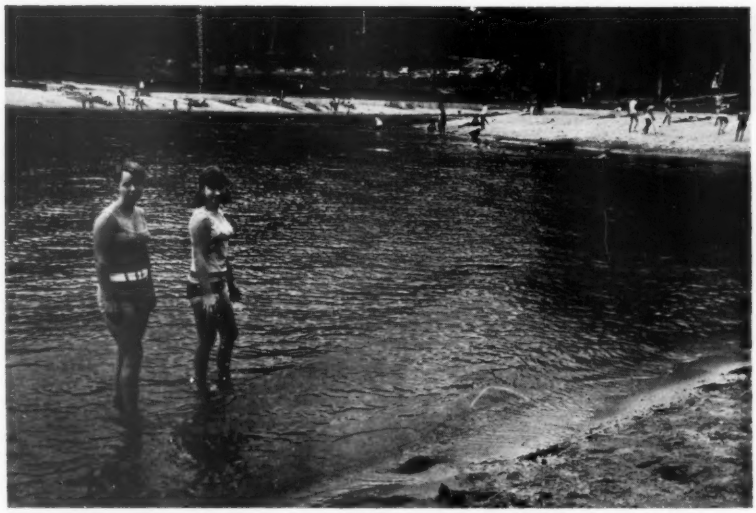
Like most of the 21 projects approved for construction in Louisiana, local people matched Soil Conservation Service funds on a 50-50 basis to finance the watershed project. They did this by voting a 4-mill parish-wide property tax to raise $2½ million over a 10-year period.

The Cotile recreation area opened for business in August 1966 only 1 week after the project's dedication. The police jury operates and maintains the area.

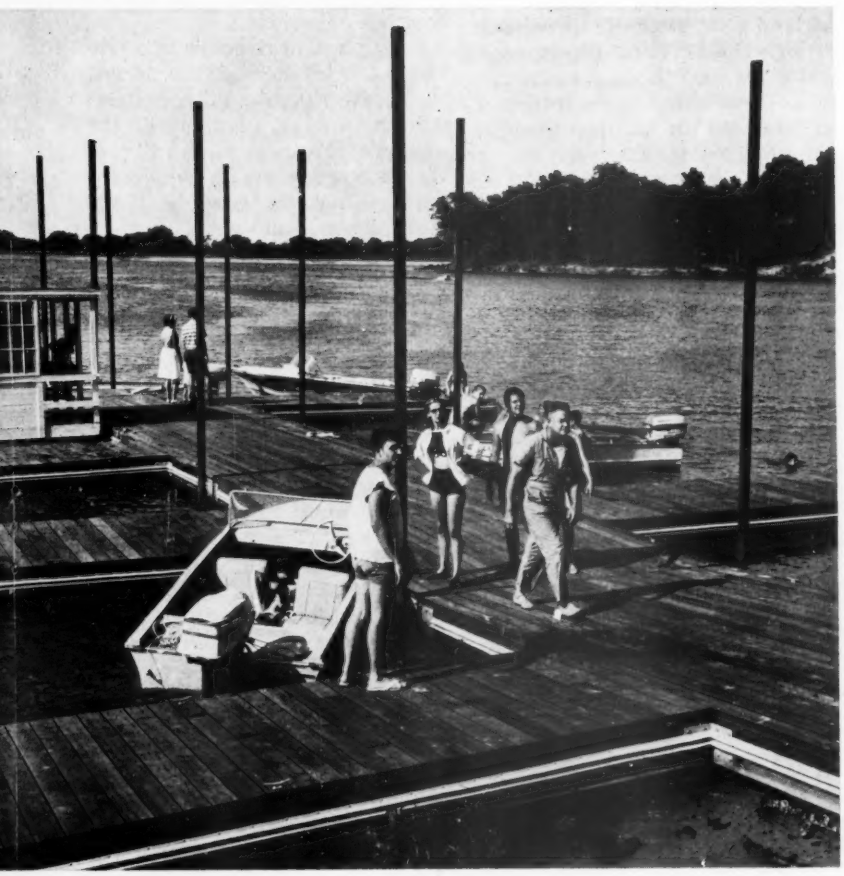
"The first thing we did was to set

The camping area at Cotile appeals to all members of the family.

Watershed project lake and adjoining area offer wide range of activities



Above, the sandy beach with backdrop of pines is graced by comely bathers. At center, the ladies strike out on their own for the open water. Below, the floating docks are a center of activity.



rules and regulations," Fielding James, president of the jury, said. "One was an entrance fee of $0.50 a car plus $0.50 for trailers. We also set a $1 fee for launching boats and $1 for campers."

The jury did not allow fishing the first year after the lake was stocked by the Louisiana Wild Life and Fisheries Commission. Other rules were set regarding water sport safety, camping, and swimming.

Cotile boasts more variety for recreation than most fun spots. Boating and skiing are popular on the 400 acres of open water. There is fishing from a 143-foot floating pier. Both fishing and hunting are popular on the entire lake area. One area has real beach sand and a modern bathhouse.

Some 2.7 miles of hard surface roads wind through the rolling recreation area that overlooks the lake. Trailer parking spots equipped with running water, electricity, garbage disposal, and cooking pits, are built along the roadsides.

One area designated for camping is equipped with water, lights, and garbage disposal, plus a play area for the kids.

The roads also are lined with picnic tables, cooking pits, and be-

low-ground garbage cans. Campers sleep under the stars, pitch tents, and use trailers. Other features include a pavilion, observation shed, trailer refuse disposal, and comfort stations.

In 1967 more than 127,000 people paid nearly $20,000 to enjoy the outdoors at Cotile. This money was turned back into the project for caretakers' fees and for general maintenance. Through July of 1968 more than 80,000 fun seekers came to Cotile, and more than $15,000 was taken in from entrance fees. "We think attendance will climb to more than 150,000 this year," James said.

Activities at Cotile have stimulated the economy of the Hot Wells community 15 miles from Alexandria. A building boom is on its way and businesses are springing up all around the area. Land values have jumped to nearly $1,000 an acre, and sales from property around the lake are expected to add more than $5 million to the community's economy during the next few years. One hundred fifty homes have been built in the Cotile area, and 12 new businesses have been established during the past year.

Cotile Lake and Recreational Area is yielding a crop that cannot be eaten or worn but is one that brings happiness to thousands and pleasant memories that linger long after the people have gone home. ♦

Small dams satisfy a big thirst in Tunisia as water for many uses flows from reservoirs

By Frederick E. Keeter
Civil engineer, SCS, Stillwater, Okla.

Multipurpose ponds are being constructed as the answer to many different water needs in central Tunisia where the rainfall is less than 20 inches annually, and most of it falls during the winter.

The Soil Conservation Service has a team of technicians, working principally in the Oued Marguellil watershed, to assist Tunisia in the development and utilization of its land and water resources. The major water needs are for domestic and livestock uses and for irrigation. The dams, being constructed in the upper part of the watershed, also provide flood storage.

In this area, a single dug well or spring usually supplies domestic water for as many as 20 families living in a square mile. Often a family must walk as much as 3 miles for water. The women carry the water in clay jars or goatskin bags. The same water supplies are used also for livestock. The animals are driven up to 10 miles to water. As water becomes low in wells and springs in the hot summer, use by livestock is forbidden.

A Tunisian labor force adds rock riprapping to the front slope of a dam. The dam is made of compacted earth with rock and cement in the principal spillways.

Each planned reservoir will provide water for domestic use, as well as for other needs. Filter systems will be installed in many of the reservoirs. The new ponds will provide a more adequate supply for the sheep, cattle, goats, donkeys, mules, horses, and camels.

The irrigation of a small summer garden is seldom possible with the limited amount of water in wells and springs. Each dam being constructed is designed to irrigate from 10 to 30 acres of garden and summer forage crops.

Many of the ponds are located to stop stream channel erosion by preventing overfalls from working their way into precious cropland above. A sediment pool is provided in each pond to reduce silt damage to productive bottom lands.

Building dams to include all the multipurpose features in each calls for care in their location. Soils and foundation investigations are made to determine site characteristics.

Tunisia has adequate soil laboratories to assist in these determinations. A mobile core drilling machine is used to investigate the foundation at each site. ♦

Taking the measure of outdoor recreation resources

By Charles G. Phillips
Soil conservationist (recreation), Resource Development Division, SCS, Washington, D. C.

Soil and water conservation districts and cooperating federal and state agencies have completed on-the-ground appraisals of recreation potentials in more than a thousand counties in a nationwide program sponsored by the National Association of Soil and Water Conservation Districts (NACD) and the Department of Agriculture.

They plan to complete the job in another 745 counties before January 1, 1970, and eventually to cover some 2,000 counties that have recognized opportunities for recreation development.

The study of potentials was undertaken after districts had completed an inventory of existing facilities, both private and public. NACD sponsored the inventory in 1965-66 as the first step in coming to grips with the growing demand for outdoor recreation facilities.

Obviously, the next step after finding out what facilities already exist in an area is to determine the possibilities for additional development, both as to kind and quantity, and to analyze the potential market. Then, the community and individual landowners can make wise choices and proceed with confidence in establishing new facilities in a business-like manner.

SCS and other USDA agencies worked with NACD in devising a uniform procedure for appraising recreation potentials (described in *Soil Conservation,* October 1966). After a period of testing this system and training fieldmen, state and other agencies helped the districts make the appraisals.

In each case, the procedure involves gathering and interpreting for a specific area data on soils, topography, climate, scenery and scenic areas, natural areas, historic areas, existing water areas, potential water-impoundment sites, wildlife habitat and wildlife population; size and distribution of the human population, their ages and occupations, income levels, and proximity and access to the area; and the rural ownership and land use pattern.

These factors are noted separately as to their contribution to 12 standard kinds of recreation developments previously recognized in the inventory of existing facilities; namely, (1) vacation cabins, cottages, and homesites; (2) camping grounds; (3) picnic and field sports areas; (4) fishing waters; (5) golf courses; (6) hunting areas; (7) natural, scenic, and historic areas; (8) riding stables; (9) shooting preserves; (10) vacation farms and ranches; (11) water sports areas; and (12) winter sports areas.

The result is a numerical score for each kind of recreation development indicating that its potential is "high," "medium," "low," or "none" in a national system of comparison. The findings express the group judgment of knowledgeable people in the area, usually including the district governing body, the USDA's Technical Action Panel, and other representatives of federal, state, and local agencies, and organizations.

The information gained during the appraisal is published to serve as a guide to individuals, organizations, agencies, and local units of government in planning either private or public recreation developments.

District governing bodies are finding the appraisals useful in supplementing or revising their long-range programs. They often indicate that certain kinds of recreation developments have little or no potential within the district while others formerly overlooked offer attractive opportunities for development. Their long-range programs and annual plans of operation can be revised accordingly.

Resource conservation and development projects and other broadscale efforts to improve the rural economy make good use of the inventories and appraisals in planning.

For example, the plan for the Northeast Mississippi RC&D Project gives the development of vacation cabins, cottages, and homesites high priority on the basis of the appraisal of recreation potentials, just completed. Although the potentials for this type of recreation facility are high, it ranks low in the inventory of existing facilities in the area.

According to the inventory, fishing waters, hunting areas, water sports, and picnic and field sports areas now rank in that order, with 131, 92, 86, and 74 existing facilities respectively. Considering the potentials indicated by the appraisal, the Recreation, Wildlife, and Tourism Committee estimated that the following new developments would be completed in the project area by 1980: 2,020 vacation cabins, cottages, and homesites, 2,520 fishing waters, 586 hunting areas, 268 picnic and field sports areas, and 166 water-sports areas.

The appraisal also revealed that the project area has 18,736 potential impoundment sites that could hold an additional 77,700 acres of water for fishing and water sports.

In the Northern Great Lakes Region, the appraisals are being used to develop framework programs for broad areas to promote recreation enterprises with the greatest potential.

The Ozarks Economic Development Region Commission and the Arkansas Planning Commission are using the appraisals in the development of comprehensive plans and programs.

Arkansas developed a statewide summary of the appraisal for use in statewide planning and development of resources.

The appraisals of recreation potentials provide bankers, land developers, realtors, and other investors guidance in selecting the types of outdoor recreation developments most likely to succeed. They are useful also to businesses that depend on the patronage of tourists and vacationists, such as motels, gift shops, and restaurants.

The Chambers of Commerce in Alabama are using the appraisals in promoting recreation and tourism throughout the State.

The appraisals provide district governing bodies a tool to use with their individual cooperators and with cooperating agencies to stimulate interest in the kinds of recreation development with the most potential for success.

In Maryland, short appraisal reports are being issued in each county. Several counties are issuing more detailed publications primarily for use by individuals, agencies, and organizations concerned with planning recreation developments.

Under the influence of inventory and appraisal information, farmers, ranchers, small towns, and county governments, with assistance from SCS and other agencies moving ahead to meet the needs of an estimated 130 million Americans seeking recreation in the outdoors this year. The Soil Conservation Service provided technical assistance in establishing or expanding more than 40,000 recreation areas and facilities during 1968.

During the same period, 345,000 acres of farmland was converted to recreation and wildlife use. Since 1962, well over 5 million acres have undergone such conversion.

Recreation facilities are also being established in many watershed projects. As of June 30, 119 watershed projects in 33 States included 140 public recreation developments. These facilities when completed will provide an estimated 8½ million user-days annually of water-based activities such as fishing, boating, and swimming. About 85 reservoir sites are planned for development for public recreation use in the 5-year period 1968–72. In addition watershed project reservoirs provide the nucleus around which hundreds of private recreation enterprises are being developed. ♦

Scout camporee stimulates conservationists

Tennessee conservationists and Boy Scouts trade information for inspiration each fall when the Scouts of the Tuckaleechee District of the Great Smoky Mountain Council gather at a weekend Conservation Camporee.

In October 1967, the fourth year for the camporee, the boys camped at Lambert Lake, near Maryville, Tenn. During the day, the Scouts working for the Conservation of Natural Resources Merit Badge went to a farm to work on soil and water conservation practices. The boys divided into groups and seeded a waterway, studied soils, laid out a pond, and observed land use and conservation practices.

Other scouts worked on merit badges in wildlife management, weather, and forestry. Soil conservationists of the Soil Conservation Service and specialists of state conservation agencies helped the boys satisfy their merit badge requirements.—T. J. LONGWELL, *soil scientist, Knoxville, Tenn.* ♦

Boy Scouts at a Tennessee Camporee spread mulch on a grassed waterway they helped fertilize and seed while earning their conservation merit badge.

Private and public range combined in plan for coordinated management of forage

By E. David Sharman and Gene Vecchia

Soil conservationist, SCS, Delta, Colo., and area manager, Bureau of Land Management, Montrose, Colo.

More forage for cattle and deer will grow on 17,000 acres of public and private land in Delta and Montrose counties, Colo., because of a joint effort by rancher Harold Porter, the Delta Soil Conservation District, and the Bureau of Land Management (BLM).

The Porter Ranch lies on Roubideau Creek southwest of Delta. Porter owns about 3,000 acres and has grazing privileges on about 12,500 acres of land administered by BLM.

Under a working agreement between the Delta District and BLM, SCS conservationists assisting the district and BLM personnel worked jointly with the rancher to prepare long range plans covering both his private and allotted public land.

BLM personnel and the rancher developed a plan for the public land. The rancher, with technical assistance from SCS, developed a plan for the private land. These two plans were then brought together into one overall management plan for the entire ranch.

Porter, who has a cow-calf operation, was interested in a yearlong grazing operation on a sustained yield basis. He and BLM worked out a spring-fall grazing program on 12,500 acres of public land and 1,200 acres of private land in the allotment.

This area was broken into four pastures through the use of natural barriers, such as canyon walls, and by fencing. Three pastures will permit a rest-rotation program in which each pasture will receive spring use one year, fall use the next, and no use the next. The fourth pasture is too small to fit into the rotation plan and will be used each year in late fall. Water facilities were planned for each pasture to provide a more even distribution of grazing.

Most of the public land is covered with pinyon-juniper trees. One area was treated 10 years ago by chaining down the trees and seeding grass. Native and introduced grasses were given a chance to increase and have more than tripled in production.

Other areas that have deep soils and good potential for vegetative growth will be given similar treatment. Strips of trees 75 yards wide will be left around each of the chained areas for wildlife cover and natural beauty. The chained areas

Grass is almost absent from the pinyon-juniper range (left) that will be cleared and seeded under the conservation plan. On an area that was chained and seeded 10 years ago, blue grama and crested wheatgrass are well established.

will be seeded to crested wheatgrass and browse plants, such as fourwing saltbush and mountain mahogany.

The pinyon-juniper areas are part of the winter range for deer and other wildlife. The rest-rotation grazing program, leaving strips of pinyon-juniper cover, will improve the area for both wildlife and livestock use.

Porter, with SCS assistance, then developed a plan on his private land to carry his cattle through the winter and early spring. Summer range is provided by a grazing permit on the Uncompahgre National Forest, thereby completing the year-round grazing cycle.

About 400 acres of private land will be irrigated. In order to eliminate the need for leasing pasture, as in past years, Porter plans to use the irrigated land for pasture and hay production.

The combination of private and public land, including both range and irrigated pasture, and all managed according to a coordinated plan of seasonal use, will result in a more stable and profitable livestock operation. ♦

From scrub oak to pine: a forest recreated

A former world wide golf equipment salesman, Thomas C. Robbins, picked the Sandhills of Moore County, N. C., for his retirement farm and converted most of his 135 acres to woodland by planting thousands and thousands of pines.

A cooperator with the Moore Soil and Water Conservation District, he follows a conservation plan that guides his woodland development and provides for a rotation of fescue and crotalaria with tobacco on his cropland.

In 1964, Robbins had 42 acres under cultivation and 93 acres of woodland, mostly scrub oak and hickory of low commercial value, gum, and a scattering of shortleaf, loblolly, and longleaf pine. Today, he has only about 4 acres of hardwoods. Some 2,000 yellow poplar seedlings are making good growth, and about 80,000 pines from seedlings to 9 inches in diameter occupy land where scrub oak once grew.

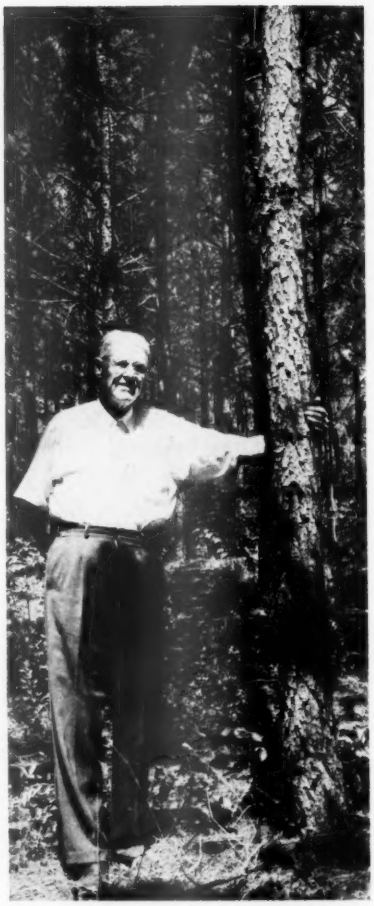
In 1955, he cleared the turkey and blackjack oak from an abandoned field of 4½ acres and planted it to loblolly pine. He cleared 36 acres in 1957, and planted this land to pine in 1957-58. For 12 years he has been clearing and planting. Many of the hardwood stumps have been poisoned with a chemical to prevent sprouting. Some pruning of pine is done each winter.

Thomas Robbins made an intermediate cutting in 1967 in the first stand planted in 1955. The best trees were being left, using the "D+" system of spacing. According to this guide for southern yellow pine, the number 6 is added to the diameter in inches of existing trees to determine proper distance in feet to their nearest neighbors for optimum growth. Thus, if the best trees in a stand are 6 inches in diameter, proper spacing would be 12 feet.

SCS conservationists marked two 1/10-acre plots demonstrating the D+6 principle of spacing. A tally of the two plots indicated that 6 cords per acre, worth $36 on the stump, could be cut and 11.2 cords per acre, worth $67.20, would be left, making a total value of $103.20 per acre on the stump. A 10 percent reduction for defect was made in the computations. Another thinning can be made in this stand after 6 years.

Besides his timber and tobacco crops, Robbins harvests bobwhite quail that afford him and his dogs much pleasure every year. He knew pine thickets would produce little food for quail, so he has selected sites for wildlife habitat improvement and planting. Today there are more birds than ever on his land.

He also has a lake and a pond, both stocked with bream and bass. —WILLARD K. KELLER AND PAUL R. BRITT, *work unit conservationist and soil conservation aid, SCS, Carthage, N. C.* ♦



Thomas Robbins stands by a tree in his first planting of pine made in 1955. The dominant trees average 7 inches in diameter breast high after 12 years.

Soil conservation districts

Soil conservation districts blanket the Nation. They now include about 99 percent of the farms and ranches and more than 95 percent of the agricultural land. ♦

Historic Texas ranch adds another chapter with Great Plains Conservation Program

By A. V. Sheppard and Nolan W. Bird

Work unit conservationist and soil conservation technician, SCS, Tahaha and Colorado City, Tex.

Travis S. Branch, whose father-in-law "80 John Wallace" became a legend as one of the first Negro cowboys to drive cattle into Texas, is now one of the outstanding cooperators of the Mitchell Soil and Water Conservation District at Colorado City, Tex.

Branch works with 8,820 acres of farm and ranch land in one capacity or another. He owns 1,880 acres, and 2,240 acres in an estate in which his wife, the former Hettye Wallace, has an interest. The estate owns another 4,480 acres which is leased to a rancher, and Branch recently bought a farm which is leased to a farmer.

Conservation is a regular part of operations on the land Mr. Branch runs and is a part of the rental agreement on land operated by other people. Branch signed a Great Plains Conservation Program contract on his land in January 1961 to help establish a complete conservation program. The ranch and the farm leased out both have a Great Plains Conservation Program contract.

Grassland management is an important part of Branch's conservation program. He has 10 acres of irrigated coastal bermudagrass and 30 acres of Johnsongrass for tame pasture. Watering facilities have been installed on rangeland to get proper grazing distribution so the grasses can gain vigor and density.

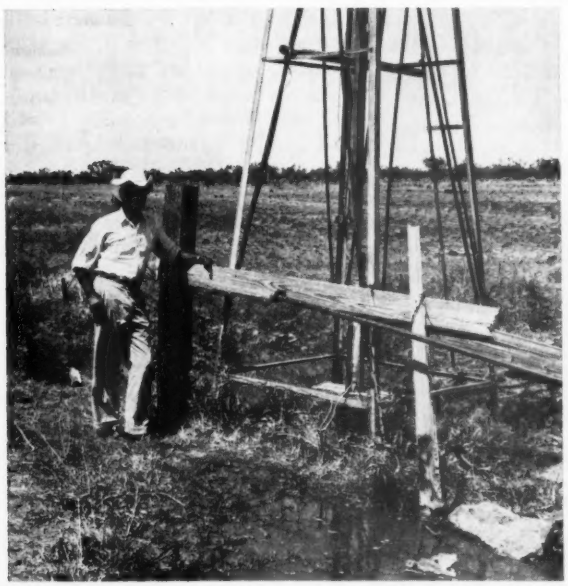
Sorghums and cotton are the principal crops grown in rotation on the cultivated land. Crop residues are left on the soil surface until about April 1 each year to control wind erosion.

Cost-sharing under the Great Plains program is helping to replace inadequate terraces and to construct new systems on all sloping land.

"80 John Wallace" bought his first land while working as a cowboy for the Clay Mann cattle outfit, whose "80" brand stuck with him as a part of his name the rest of his life. Soon after, school and railroad land were opened for sale, and he homesteaded and bought two sections. After 14 years working as a cowhand and learning many secrets of successful ranching, "80 John" decided to go out on his own. To his original purchase, he added 12½ sections of good land. When he died in 1939, he was the owner of 14½ sections of land, 600 head of good cattle, a modern 8-room house, barns, lots, and corrals.

Today, Travis Branch has the added benefit of successful conservation practices which ranchers have been applying for more than 3 decades. ♦

Travis Branch made several improvements in this water-supply system with the help of Great Plains Conservation Program cost-sharing. The windmill, left, used to supply livestock water, had inadequate storage and the overflow caused a mudhole. On the right, Mr. Branch has built a reinforced concrete storage tank and drinking tank with a concrete apron and a float valve to prevent overflow.



Meetings . . .

Recreation and Parks for leisure society

The 1968 Congress for Recreation and Parks, October 13–17, in Seattle, Wash., spotlights America's rapid evolution from a work-oriented to a leisure-oriented society.

Sponsored by the National Recreation and Park Association, the annual convention has as its theme, "Crisis, Challenge, Change," which reflects the mounting public demand for improved and expanded park recreation and conservation services.

More than 4,000 lay and professional recreation, park, and conservation leaders from all over the United States and several foreign countries are expected to attend, and delegates will participate in 42 educational sessions.

Some of the session topics are "New Innovations in Continuing Education;" "Citizen Participation: A Challenge in Involvement;" "The Role of the Public School in American Recreation;" "Inner City—Suburban Relationships;" "Conservation and Interpretive Programs;" and "Computer Application."

Forestry group considers man and his environment

"Man and His Environment" will be the theme at the annual meeting of the American Forestry Association on October 13–16, at Portsmouth, N. H. Panel discussions will be held on "Forests, Past, Present, and Future in New England," and "Pesticides and Environment."

Two students from the University of Missouri will discuss "Youth Looks Ahead." Rabbi Jacob Weinstein of Chicago will give an address on "Wilderness Is Our Salvation," and Dr. Paul Dudley White of Harvard University a talk on "Health and Recreation."

Three field trips will be held after the meeting.

Commerce Executives to discuss generating greatness

The American Chamber of Commerce Executives will discuss "Generating Greatness" as the theme of its annual meeting October 6–9, at Portland, Oreg.

The topics will be "Generating Greatness Through Understanding of the New Generation and Our World," ". . . Through Understanding Your Job," ". . . Change in Ideas and Techniques," ". . . Present and Past," and ". . . The Road Ahead."

Dates and places

October 6–9, American Chamber of Commerce Executives, Portland, Oreg.

7–10, American Mining Congress, Las Vegas, Nev.

7–10, National Association of State Foresters, New Orleans, La.

13–17, Congress for Recreation and Parks, Seattle, Wash.

13–17, American Park and Recreation Society, Seattle, Wash.

13–17, National Recreation and Park Association, Seattle, Wash.

13–16, American Forestry Association, Portsmouth, N. H.

23–27, Association of Engineering Geologists, Seattle, Wash.

27–31, American Forest Products Industries, Washington, D. C.

27-Nov. 1, National Association of Travel Organizations, Las Vegas, Nev.

31-Nov. 3, Sprinkler Irrigation Association, Coronado, Calif.

November

10–13, National Association of State Universities and Land Grant Colleges, Washington, D. C.

10–15, American Society of Agronomy, New Orleans, La.

10–15, Soil Science Society of America, New Orleans, La.

11–13, National Forest Products Association, Vancouver, Canada.

11–19, National Grange, Peoria, Ill.

17–23, National Reclamation Association, Oklahoma City, Okla.

18–22, American Water Resources Conference, New York, N. Y.

23–27, National League of Cities, San Diego, Calif.

24–26, National Association of Farm Broadcasters, Chicago, Ill.

Million acres needed for new powerlines

Around a million acres of land in east central, north central, and far west regions of the United States will be needed for the construction of an estimated 44.8 thousand miles of extra-high-voltage transmission lines in the 8-year period from 1968–75 to meet projected power needs, according to the Federal Power Commission.

In just 1 year (fiscal 1966—the latest data available) about ½ million acres of land was required for 15.5 thousand miles of new extra-high-voltage lines.

These estimates include only acreage used for lines with a capacity of 345,000 volts or higher and do not cover land used for additional thousands of miles of lower voltage transmission and distribution lines. ♦

Plant material centers study and develop grasses and legumes

When soil conservation began to be emphasized in the 1930's, adapted grasses and legumes were lacking for some of the jobs to be done.

More and better planting materials of the few kinds in common use were needed by farmers and ranchers who began applying conservation treatment to their land. It was early apparent that the problem of planting materials would need special attention if grassland agriculture was to play its proper role in soil and water conservation.

In a widely cooperative program, 20 plant materials centers were established by the Soil Conservation Service.

These centers have three functions: (1) To assemble, evaluate, select, and increase grasses and legumes for use in soil and water conservation; (2) to determine reliable cultural and management methods for their use, and (3) to get proved materials into production by farmers and ranchers, and commercial growers. ♦

Review

Outdoor Recreation: Community Action Guide for Public Officials. *1968. National Association of Counties Research Foundation, Washington, D. C. 10 unpaged booklets, boxed; illus. $1.00.*

A series of 10 booklets, developed in cooperation with the Bureau of Outdoor Recreation, gives local officials and community leaders guidelines for a comprehensive outdoor recreation program. The guides should be useful to administrators, park and recreation directors, county attorneys, planners, public works directors, and others assisting local governing bodies with recreation development.

The series includes: (1) Planning, (2) Legal Aspects, (3) Organization, (4) Staffing and Consultants, (5) Areawide and Multigovernmental Opportunities, (6) Financing, (7) Technical and Financial Assistance, (8) Land Acquisition, (9) Water-Based Recreation, (10) Citizen Support.

Case studies are used throughout the series to illustrate problems and the applicability of the guidelines. —CHARLES G. PHILLIPS, *Resource Development Division, SCS, Washington, D. C.*

Rural Recreation for Profit. BY CLODUS R. SMITH, LLOYD E. PARTAIN, AND JAMES R. CHAMPLIN. *1968. 2d. ed. Interstate Printers and Publishers, Danville, Ill. 319 pp., illus. $6.95.*

The second edition of this practical handbook, the only one in its field, comes only 2 years after the original (reviewed in *Soil Conservation,* October 1966.) Exhaustion of the first printing in such a short time shows the keen demand for information in this new field of endeavor.

An additional chapter by Lloyd E. Partain, assistant to the SCS administrator for recreation, on "Locating an Outdoor Recreation Business," gives explicit instructions for evaluating natural resources and analyzing the potential market. It describes the procedures worked out by the Soil Conservation Service in cooperation with the National Association of Soil and Water Conservation Districts for making an inventory of recreation facilities and appraising recreation potentials in conservation districts (see p. 63).—B. O.

Manual of Outdoor Interpretation. EDITED BY JOE J. SHOMON. *Natl. Audubon Soc., New York. 104 pp., illus. $3.00.*

The need for nature appreciation and "an outdoor conscience" as a basis for the voluntary practice of conservation by every citizen is the philosophical basis of this treatise on the new art of "outdoor interpretation" assembled by the head of the National Audubon Society's Nature Centers Division.

After a survey of general principles, separate authors in individual chapters take up in historical succession the nature interpretation programs of the national parks, national forests, wildlife refuges, and state and local parks. The more recent development of nature centers such as the Audubon Society sponsors, outdoor laboratories at public schools, natural areas, and camps are also discussed.

Not the least appealing feature of the attractive book are the many fine photographs, most of them by the editor.—B.O.

The Freeway in the City. BY URBAN ADVISORS TO THE FEDERAL HIGHWAY ADMINISTRATOR. *1968. Government Printing Office (U. S. Department of Transportation). 141 pp., illus. $3.00.*

Prepared as a report to the Secretary of the new Department of Transportation, this document analyzes the problems of planning highways through urban areas and recommends principles for allaying some of the conflicts that so often plague freeway construction.

An independent group of planners, architects, landscape architects, and engineers was named in 1965 by the former Federal Highway Administrator of the Bureau of Public Roads to make the study and prepare recommendations.

The report takes as its premise that "the urban freeway of the future cannot function only as a transport facility but must become an essential element in the redesign of old cities and the establishment of new ones." The 170 specific recommendations aim at achieving the twin goals of moving people and goods and at the same time serving and enhancing the total environment of the city itself.

Many of the same principles and recommendations are equally valid in planning, locating, designing, and building highways in the suburbs and open country.—B. O.

New publications

Tillage Methods to Reduce Runoff and Erosion in the Corn Belt. BY J. V. MANNERING AND R. E. BURWELL. *1968. USDA Agr. Inf. Bull. 330. 14 pp., illus. $0.15.* Recent developments in tillage methods help to offset the increased erosion hazards of continuous row crops. Although greater use of fertilizer and higher plant populations in modern farming increase residue production, they do not eliminate the erosion hazard. Minimum tillage, mulch tillage, ridge tillage, contour listing, and interrow seeding reduce soil and water losses while row crops occupy the soil. Although most of these practices are more effective when the row crop follows a sod crop, they are also beneficial when row crops are grown year after year.

Youth Power. *1968. National Youth Conference on Natural Beauty and Conservation. 830 Third Avenue, New York 10022, 21 pp., plus illus.* An evaluation of the results of the 1966 National Youth Conference on Natural Beauty and Conservation prepared under contract by Science Research Associates, Inc. Several examples of community action by young people are described and some conclusions drawn about the kinds of support needed and the motives that lead to successful participation.

A Selected Bibliography on Special Districts and Authorities in the United States, Annotated. BY BENJAMIN NOVAK. *1968. USDA Misc. Publ. 1087. 57 pp.*

Governmental Response to Urbanization: Three Townships on the Rural-Urban Gradient. By Alvin D. Sokolow. *1968. USDA Agr. Econ. Rept. 132. 58 pp. $0.45.* A comparative study of three Michigan townships extending westward from Lansing: one suburban, one semirural, and one rural.

There was a gradual and somewhat linear decrease in urban characteristics away from the core city. The local governments had responded to urban growth by adopting new and expanding services and by changing their patterns of finance and administration, each significant step usually following a flurry of political activity. The sequence of changes followed a consistent pattern, the local governments moving from regulatory to facilitative programs, from minimum to maximum levels of finance and administration, and from stable to changing formal structures.

Ponds and Marshes for Wild Ducks on Farms and Ranches in the Northern Plains. By Wade H. Hamor, Hans G. Uhlig, and Lawrence V. Compton. *1968. USDA Farmers Bull. 2234. 16 pp., illus. $0.10.* To attract wild ducks on ponds and marshes that contain water throughout the year is necessary. This bulletin gives the requirements for improving and building ponds and marshes for ducks. Along with this are suggestions for selecting and planting duck foods and for conservative hunting in the Northern Plains.

Soil Erosion and Sedimentation on Federal Lands: Montana. *1968. USDA, Soil Cons. Serv. 39 pp., charts and tables.* A report prepared in response to a formal request to the Soil Conservation Service from Senator Lee Metcalf of Montana. Federal land agencies in the state cooperated by providing information about areas under their administration. The report concludes that the percentage of federally owned land needing treatment and feasible to treatment closely parallels the needs on private land.

A Toposequence of Soils in Tonalite Grus in the Southern California Peninsular Range. By Wiley D. Nettleton, Klaus W. Flach, and George Borst. *1968. USDA Soil Surv. Investig. Rpt. 21. 41 pp., illus.* This study demonstrates the influence of topographic position on soil development and mineral weathering in an environment of marked alternation of wet and dry seasons.

Availability and Use of Health Services—Rural-Urban Comparison. By Martin Krakowski, Michael Werboff, and Bernard Hoffnar. *1968. USDA Agr. Econ. Rpt. 139. 26 pp., illus.*

Employment in Appalachia: Trends and Prospects. By Theodore E. Fuller. *1968. USDA Agr. Econ. Rpt. 134. 53 pp.* An analysis of 79 areas grouped by size of population center.

Agricultural Policies in Europe and the Soviet Union. *1968. USDA Foreign Agr. Econ. Rpt. 46. 59 pp., illus.* Reviews policies likely to have an impact on the level or composition of agricultural production in Europe and the Soviet Union, or on U. S. agricultural exports.

Northern New England Vacation Home Study, 1966. *1967. U. S. Dept. of Interior, Bur. of Outdoor Recreation. 12 pp., illus.* Study to develop measures of the extent to which occupants of vacation homes participate in outdoor recreation.

The Middle Missouri. By Bureau of Outdoor Recreation. *1968. U. S. Dept. Int. 103 pp., illus. $1.25.* A study of the outdoor recreation potential of the middle Missouri, made at the direction of the Senate Committee on Interior and Insular Affairs.

The Effect of Taxes and Public Financing Programs on Local Industrial Development. By Thomas F. Stinson. *1968. USDA Agr. Econ. Rpt. 133, 24 pp.* A survey of the literature.

Zoning for rural areas. By Erling D. Solberg. *1968. USDA Leaflet 510. 7 pp.* Slightly revised from 1962 edition.

Land Exchange in the National Forest System. *1968. USDA PA-821. 12-page folder, illus.* Need for exchanging of private and public land in the National forests along with two maps showing ownership before and after exchange.

Rural Zoning, People, Property, and Public Policy. By William J. Block. *1967. USDA ESC-563. 32 pp.* Discusses some of the controversial aspects of rural zoning, what it can do and cannot do, and what's ahead for rural zoning.

Soil surveys

Wright County, Minnesota. By Russell J. Edwards. *1968. 140 pp., illus.; maps 4 inches to the mile (1:15,840).* Field survey by Robert A. Lueth, Edmund R. Meir, Woodrow W. Anderson, Paul R. Nyberg, Robert C. Munter, Alex S. Robertson, Grenfall F. Harms, H. R. Cline, Russell J. Edwards, Rouse S. Farnham, Milo Harpstead, Richard G. Wirth, Roland R. Larter, Larry Adams, and John E. Foss.

Matanuska Valley Area, Alaska. By Dale B. Schoephorster. *1968. 67 pp., illus.; maps 3.17 inches to the mile (1:20,000).* Fieldwork by Dale B. Schoephorster, James A. Dement, John A. Ferwerda, Robbie L. Flowers, Orville L. Haszel, James H. Lee, Wilford J. Sheehan, and Charles M. Thompson.

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From the Administrator:

Conservation on Recreation Areas

A new kind of land use—recreation—has come into prominence in the past decade. But too few landowners and resource managers recognize the hazards associated with what once was regarded as nonuse or a very minor secondary use of land.

Positive conservation measures are fully as necessary on outdoor recreation areas as on cropland, grazing land, or woodland. Here, as elsewhere, each acre must be used within its capability and treated according to its needs. Recreation use creates its own kind of special conservation needs for each kind of land.

There is particular need for effective conservation practices to safeguard public parks, picnic sites, playgrounds, trails of all types, and other areas frequented by more and more people in pursuit of wholesome leisure and recreation.

Conservation district supervisors and professional conservationists have a responsibility to encourage land owners and operators to develop recreation resources. But their responsibility goes far beyond that. They should assist in every way possible to assure that basic natural resources are protected while providing high quality recreation opportunities.

Basic to adequate protection and sustained safe use of recreation areas is comprehensive planning. Such planning requires the team, or inter-disciplinary, approach, just as it does for land dedicated to other primary purposes.

The plan must take into account not only the needs and desires of the users but a realistic knowledge of soils, engineering, plant and animal life, and facility design, layout, maintenance, and operation.

People with such knowledge, or in a position to obtain the necessary information, may be found in most localities. Some of them are employed in the Soil Conservation Service serving soil and water conservation districts in nearly every county. They should become a part of the planning team for all recreation developments of concern to cities, counties, multi-county areas, or regions of the country.

The soil conservationist has the responsibility of interpreting soil survey information and engineering data and recommending conservation treatments and practices that apply to recreation land.

SCS personnel should encourage high standards and quality facilities. Low initial costs may result in greater expense over the long run. This is especially an SCS responsibility in cost-shared recreation developments in watershed projects. Good recreation plans should not be finite but should be flexible and "open-ended" to permit changes to meet changing needs.

The managers of recreation areas and facilities, whether public or private, must be willing to accept the responsibility for limiting the amount of use to the level for which they were designed or the innate capacities set by nature. Otherwise, there is great danger of destroying the very resources that attract visitors in the first place. This may sometimes be difficult for public areas because of political pressures, but it must be done.

Camping areas, for example, can quickly deteriorate into outdoor slums if those in charge lack the courage—or the willingness to forego extra income—to put up the "no vacancy" sign when no vacancies exist.

An alternative is to provide adequate "overflow" areas to accommodate excess patronage beyond normal design capacity. When planned, designed, and maintained properly, overflow areas need not detract from the regular facilities and will help protect the natural resource.

In recreation areas of all kinds—including parks and wilderness areas—motor vehicles and horses should be restricted to the facilities designed to accommodate them. Nothing will destroy an area faster than concentrated traffic, whether by wheel or hoof. Some of the choice vacation lands are extremely fragile and can stand only limited trampling or grazing. A few strategically located barriers in the form of plantings or structures can do much to control damage.

Another example of the need to be really alert about conservation problems in the recreation use of land is the effect of the growing use of snowmobiles. This new type of vehicle has captured the fancy of outdoorsmen to the extent that in some areas it has become a nuisance to other people and a hazard to the land itself.

Additional trails, both private and public, are needed to safely accommodate snowmobile traffic. Ski areas must be avoided, and trails should be designed to protect the soil and its vegetation, provide for the safety of the participants, and minimize trespassing and property damage.

The key to good recreation planning is common understanding among the technical experts of different disciplines and the representatives of different interests. This involves communication, fact-finding, evaluation of pertinent data, discussion, and decision-making on the part of those in authority. The process requires calm consideration of all the alternatives—often with a lot of "give-and-take" for the good of all concerned.

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Conservationist with a camera

Enrollment in a nature course as a child sparked an interest that has developed into a 20-year recreational hobby of nature photography for Mrs. Harriet Phelps of Middletown, R. I.

Mrs. Phelps worked 10 years as a professional portrait photographer. The desire to express her interest in nature with the camera gradually began to consume her time. Her main interest is wildflowers, but she photographs other subjects in their wild settings, such as rocks, logs, and stumps.

One of her first goals was to photograph all of the wildflowers of Rhode Island. She questioned Dr. Elmer A. Palmatier, professor of botany at the University of Rhode Island. He listed 1,700 wildflowers in the State. She filmed all of them and incidentally found a few extras.

"I believe I have walked every swamp, marsh, and woodland in Rhode Island to obtain these pictures," Mrs. Phelps said.

Her collection from all parts of the country pictures 3,000 species and varieties of wildflowers.

An ardent conservationist, she is a cooperator with the Eastern Rhode Island Soil and Water Conservation District. On her 17 acres she has developed a wildlife marsh, planted 6,000 conifers for Christmas trees, and plans to complete an acre pond.

Recently, she acquired a 140-acre property in Vermont. It is being developed as a showcase of conservation. Mrs. Phelps plans to locate her studio there. She has also established a soil and water conservation plan on land she owns in South Carolina.

Mrs. Phelps has served in several offices with the Garden Clubs of America, including those of program chairman and director. She is also active in the New York Botanical Gardens and the Norman Bird Sanctuary of Middletown, R. I.

Through the lens of her camera, Mrs. Phelps alerts the public to the beauty of nature and the need for conservation. In her view, nature in all of its splendor is an irreplaceable resource.—ELMER E. OFFERMAN, *resource planning specialist, SCS, Storrs, Conn.* ◆

In interpreting the beauty of nature through the lens of her camera, Mrs. Harriet Phelps has photographed more than 3,000 varieties of wildflowers.